

U.S. Application No. 10/089,962  
Reply to Office Action dated June 7, 2005

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450101-03388

### **IN THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

#### **Listing of Claims**

1. (Currently Amended) A video signal processing apparatus comprising:  
signal-generating means for converting a frame rate of a first source video signal,  
thereby generating a second-destination video signal;  
and data-inserting means for inserting a time code of the first source video signal  
into the second-destination video signal,  
where the source time code and frame numbers of said source video signal are  
stored in a user area of Vertical Interval Time Code (VITC) data in the destination video signal.
2. (Canceled)
3. (Original) The video signal processing apparatus according to claim 1,  
further comprising second data-inserting means for inserting a sequence number into the second  
video signal, said sequence number indicating the order in which fields exist in the second video  
signal.

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4. (Original) The video signal processing apparatus according to claim 3, wherein the second data-inserting means inserts the sequence number into the user area of VITC data contained in the second video signal.

5. (Canceled)

6. (Currently Amended) A video signal processing apparatus comprising:  
data-extracting means for extracting a sequence number from a first source video signal containing the sequence number that indicates the order in which fields exist in the first source video signal; and

data-generating means for processing the fields of the first source video signal in accordance with the sequence number extracted by the data-extracting means, thereby generating a second destination video signal,

where the sequence number of said source video signal is stored in a user area of Vertical Interval Time Code (VITC) data in the destination video signal.

7. (Currently Amended) A video data processing apparatus designed to perform signal processing on source video data, said apparatus comprising:  
means for converting 24-frame rate source video data to 30-frame rate video data by means of 2-3 pull-down process; and  
means for ~~describing~~ storing a 30-frame rate time code corresponding to the 30-frame rate video data, as Vertical Interval Time Code (VITC) data ~~about the 30-frame rate video~~

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data, and ~~describing storing~~ a 24-frame rate time code corresponding to the 24-frame rate source video data, in ~~an~~ a user bit area of the VITC data.

8. (Currently Amended) A video data processing apparatus designed to perform signal processing on source video data, said apparatus comprising:

means for converting 24-frame rate source video data to 30-frame rate video data by means of 2-3 pull-down process; and

means for ~~describing storing~~ a 30-frame rate time code corresponding to the 30-frame rate video data, as Vertical Interval Time Code (VITC) data ~~about the 30-frame rate video data~~, in a bit area that accords with SMPTE-12M standards, and ~~describing storing~~, in ~~an~~ a user bit area of said VITC data, a 24-frame rate time code corresponding to the 24-frame rate source video data and a sequence number indicating the order in which fields are processed in one sequence of the 2-3 pull-down process.

9. (Canceled)

10. (Original) A video data editing apparatus for editing video data, said apparatus comprising:

means for receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data;

data-extracting means for extracting a time code corresponding to the 24-frame rate source video data inserted in a user bit area of the VITC data contained in the 30-frame rate video data; and

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means for generating an edition list of 24-frame rate, for use in editing the 24-frame rate source video data in accordance with the 24-frame rate time code.

11. (Original) A video data editing apparatus for editing video data, said apparatus comprising:

an on-line editing device for processing 24-frame rate video data; and an off-line editing device for processing 30-frame rate video data, wherein said off-line editing device comprises: means for receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data; and

means for generating an edition list of 24-frame rate, for use in editing the 24-frame rate source video data in accordance with the 24-frame rate time code which corresponds to the 24-frame rate source video data inserted in the user bit area of the VITC data contained in the 30-frame rate video data, and said on-line editing device comprises:

means for editing the 24-frame rate source video data in accordance with the edition list of 24-frame rate.

12. (Original) A video data editing apparatus for editing 30-frame rate video data, said apparatus comprising:

means for receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data; and

means for generating an edition list of 24-frame rate, for use in editing the 24-frame rate source video data in accordance with a 24-frame rate time code which corresponds to

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the 24-frame rate source video data inserted in the user bit area of the VITC data contained in the 30-frame rate video data.

13. (Original) A video data editing apparatus for editing video data, said apparatus comprising:

means for receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data, said 30-frame rate video data containing a 30-frame rate time code described, as VITC data about the 30-frame rate video data, in a bit area that accords with SMPTE-12M standards, and a 24-frame rate time code corresponding to the 24-frame rate source video data and a sequence number indicating the order of fields in one sequence of the 2-3 pull-down process, both described in an user bit area of the VITC data of the 30-frame video data; and

means for generating an edition list of 24-frame rate, for use in editing the 24-frame rate source video data in accordance with a 24-frame rate time code and sequence number.

14. (Currently Amended) A video data editing apparatus for editing video data, said apparatus comprising:

means for receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data, said 30-frame rate video data containing a 30-frame rate time code described, as VITC data about the 30-frame rate video data, in a bit area that accords with SMPTE-12M standards, and a 24-frame rate time code corresponding to the 24-frame rate source video data and a sequence number indicating the order of fields in one

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sequence of the 2-3 pull-down process, both described in an user bit area of the VITC data of the 30-frame rate video data;

means for generating 24-frame rate video data, by performing inverse 2-3 pull-down process on the 30-frame rate video data in accordance with the sequence number;

means for generating an edition list of 24-frame rate, by performing an of off-line edition process using the 24-frame rate video data generated by means of the inverse 2-3 pull-down process and the 24-frame rate time code; and

means for producing a master video program by performing on-line edition on the 24-frame rate source video data in accordance with the 24-frame rate edition list.

15. (Currently Amended) A video signal processing method comprising the steps of:

converting a frame rate of a first-source video signal, thereby generating a second destination video signal;

and inserting a time code of the first-source video signal into the second destination video signal,

where the source time code and frame numbers of said source video signal are stored in a user area of Vertical Interval Time Code (VITC) data in the destination video signal.

16. (Canceled)

17. (Currently Amended) The video signal processing method according to claim 16 claim 15, wherein the a sequence number that indicates the order in which the fields

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exist in the source video signal is inserted into the user area of Vertical Interval Time Code (VITC) data contained in the ~~second-destination~~ video signal.

18. (Currently Amended) A video signal processing method comprising the steps of:

extracting a sequence number from a first-source video signal containing the sequence number that indicates the order in which fields exist in the first-source video signal; and processing the fields of the first-source video signal in accordance with the sequence number extracted by the data-extracting means, thereby generating a ~~second-destination~~ video signal,

where the sequence number extracted from said source video signal is stored in a user area of Vertical Interval Time Code (VITC) data in the destination video signal.

19. (Currently Amended) A video data processing method designed to perform signal processing on source video data, comprising the steps of:

converting 24-frame rate source video data to 30-frame rate video data by means of 2-3 pull-down process; and

~~describing storing~~ a 30-frame rate time code corresponding to the 30-frame rate video data, as Vertical Interval Time Code (VITC) data about the 30-frame rate video data, and ~~describing storing~~, in an a user bit area of said VITC data, a 24-frame rate time code corresponding to the 24-frame rate source video data.

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20. (Currently Amended) A video data processing method designed to perform signal processing on source video data, comprising the steps of:

converting 24-frame rate source video data to 30-frame rate video data by means of 2-3 pull-down process; and

~~describing storing~~ a 30-frame rate time code ~~described, as VITC data about~~ corresponding to the 30-frame rate video data as Vertical Interval Time Code (VITC) data, in a bit area that accords with SMPTE-12M standards, and ~~describing storing~~, in ~~an~~ a user bit area of said VITC data, a 24-frame rate time code corresponding to the 24-frame rate source video data and a sequence number indicating the order of fields in one sequence of the 2-3 pull-down process.

21. (Canceled)

22. (Original) A video data editing method designed to edit video data, comprising the steps of:

receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data;

extracting a time code corresponding to the 24-frame rate source video data inserted in a user bit area of the VITC data contained in the 30-frame rate video data; and

generating an edition list of 24-frame rate, for use in editing the 24-frame rate source video data in accordance with the 24-frame rate time code.



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23. (Original) A video data editing method using an on-line editing device for processing 24-frame rate video data and an off-line editing device for processing 30-frame rate video data, wherein said off-line editing device receives 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data, and generates an edition list of 24-frame rate, for use in editing the 24-frame rate source video data in accordance with the 24-frame rate time code which corresponds to the 24-frame rate source video data inserted in the user bit area of the VITC data contained in the 30-frame rate video data; and said on-line editing device edits the 24-frame rate source video data in accordance with the edition list of 24-frame rate.

24. (Original) A video data editing method for processing 30-frame rate video data, comprising the steps of:

receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data; and

generating an edition list of 24-frame rate, for use in editing the 24-frame rate source video data in accordance with a 24-frame rate time code which corresponds to the 24-frame rate source video data inserted in the user bit area of the VITC data contained in the 30-frame rate video data.

25. (Currently Amended) A video data editing method designed to edit video data, comprising the steps of:

receiving 30-frame rate video data generated by performing 2-3 pull-down process on 24-frame rate source video data, said 30-frame rate video data containing:

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a 30-frame rate time code ~~described~~ stored as Vertical Interval Time Code (VITC)  
~~data about the 30-frame rate video data~~, in a bit area that accords with SMPTE-12M standards,  
and

a 24-frame rate time code corresponding to the 24-frame rate source video data  
and a sequence number indicating the order of fields in one sequence of the 2-3 pull-down  
process, both ~~described~~ stored in an a user bit area of the said VITC data of the 30-frame rate  
video data; and

generating an edition list of 24-frame rate, for use in editing the 24-frame rate  
source video data in accordance with a 24-frame rate time code and sequence number.

26. (Currently Amended) A video data editing method designed to edit video  
data, comprising the steps of:

receiving 30-frame rate video data generated by performing 2-3 pull-down  
process on 24-frame rate source video data, said 30-frame rate video data containing:

a 30-frame rate time code ~~described~~ stored as Vertical Interval Time Code  
(VITC) ~~data about the 30-frame rate video data~~, in a bit area that accords with SMPTE-12M  
standards, and

a 24-frame rate time code corresponding to the 24-frame rate source video  
data and a sequence number indicating the order of fields in one sequence of the 2-3 pull-down  
process, both ~~described~~ stored in an a user bit area of the said VITC data of the 30-frame rate  
video data;

generating 24-frame rate video data, by performing inverse 2-3 pull-down process  
on the 30-frame rate video data in accordance with the sequence number;

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generating an edition list of 24-frame rate, by performing an ~~of~~ off-line edition process using the 24-frame rate video data generated by means of the inverse 2-3 pull-down process and the 24-frame rate time code; and

producing a master video program by performing on-line edition on the 24-frame rate source video data in accordance with the 24-frame rate edition list.